DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-013644
Date Inspected: 23-Apr-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:
CWI Inspectors: Mr. Liu Hua Jie, Mr. Geng Wei,

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Yan Ailong, stencil 067103 is using flux cored welding procedure WPS-B-T-2231-T to make weld OBE8B-003. This weld joins OBG segment 8AE and OBG segment 8BE bottom plates between panel points PP64 and PP65. This QA Inspector measured a welding current of approximately 240 amps and 28.6 volts. This QA Inspector observed that Mr. Yan Ailong appears to be certified to make this weld. ZPMC is using electrical heating elements to heat the areas that are to be welded and ZPMC QC Inspector Mr. Liu Hua Jie was using a laser style temperature indicating device to monitor that the base material preheat was a minimum of 160 degrees Celsius prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Han Kun, stencil 066751 is using flux cored welding procedure WPS-B-T-2233-T to make weld OBE8B-004. This weld joins OBG segment 8AE and OBG segment 8BE side plates between panel points PP64 and PP65. This QA Inspector observed ZPMC QC has recorded a welding

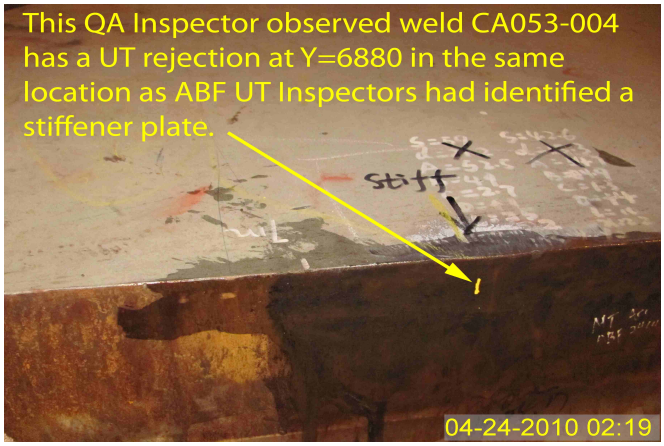
current of 215 amps and 24.8 volts. This QA Inspector observed that Mr. Han Kun appears to be certified to make this weld. ZPMC is using electrical heating elements to heat the areas that are to be welded and ZPMC QC Inspector Mr. Liu Hua Jie was using a laser style temperature indicating device to monitor that the base material preheat was a minimum of 160 degrees Celsius prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Gao Dong Liang, stencil 048714 is using flux cored welding procedure WPS-B-T-2231-T to make weld OBE7C-002. This weld joins OBG segment 7DW and OBG segment 7CW side plates between panel points PP55 and PP56. This QA Inspector measured a welding current of 230 amps and 28.0 volts. This QA Inspector observed that Mr. Gao Dong Liang appears to be certified to make this weld. ZPMC is using electrical heating elements to heat the areas that are to be welded and ZPMC QC Inspectors are using a laser style temperature indicating device to monitor that the base material preheat was a minimum of 160 degrees Celsius prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Hui Ye, stencil 045143 is using flux cored welding procedure WPS-B-T-2231-T to make weld OBE7C-003. This weld joins OBG segment 7DW and OBG segment 7CW bottom plates between panel points PP55 and PP56. This QA Inspector measured a welding current of 290 amps and 31.0 volts. This QA Inspector observed that Mr. Yu Hui Ye appears to be certified to make this weld. ZPMC is using electrical heating elements to heat the areas that are to be welded and ZPMC QC Inspectors are using a laser style temperature indicating device to monitor that the base material preheat was a minimum of 160 degrees Celsius prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jiang Yang Sheng, stencil 045240 is using flux cored welding procedure WPS-B-T-2231-T to make weld OBE7C-003. This weld joins OBG segment 7DW and OBG segment 7CW bottom plates between panel points PP55 and PP56. This QA Inspector measured a welding current of 290 amps and 31.0 volts. This QA Inspector observed that Mr. Jiang Yang Sheng appears to be certified to make this weld. ZPMC is using electrical heating elements to heat the areas that are to be welded and ZPMC QC Inspectors are using a laser style temperature indicating device to monitor that the base material preheat was a minimum of 160 degrees Celsius prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

ABF issued “Inspection Notification Sheet” number 04232010-3 item #3 informing QA that on 4-23-2010 at 20:00 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired weld CA053-004 which joins the deck plate and edge plate on the counterweight side of OBG segment 8CW. This weld is located at the Trial Assembly area. QA Inspector Mr. Mike Hasler was informed by ABF/Sense UT Inspectors that this weld has unacceptable ultrasonic indications at locations Y=1865, 3970, 12330, 18180, 18245 (mm) and the other repair areas are acceptable. This QA Inspector performed ultrasonic inspections of the forty five weld repair locations as listed on the UT report data sheets for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and observed the following “Y” locations appear to have unacceptable ultrasonic indications: Y=2230, 4370, 6880, 8785, 14400. Note: These inspections are being documented and tracked on “Verification Witness Request” documents and no TL-6027 UT report was issued for these inspections. See the photograph below for additional information.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer